

WHAT IS CLAIMED IS:

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1. A heat sink built-in type fan motor comprising:
a cooling plate to be mounted to an electronic component;
a fan motor attached to said cooling plate; and

5 an attaching plate in which a leg portion for fixing said fan motor to said cooling plate is provided in a peripheral portion of said attaching plate,

wherein said cooling plate has a hole portion at least as large as said attaching plate, and a recessed portion that is formed on an attaching surface side of said cooling plate to said electronic component and that accommodates at least said leg portion of said attaching plate therein.

2. A method of assembling said heat sink built-in type fan motor according to claim 1, said method comprising the steps of

passing said attaching plate through said hole portion;
rotating the attaching plate so that said leg portion is accommodated in said recessed portion; and

fixing said leg portion to said cooling plate fan from
20 said attaching surface side.

3. The heat sink built-in type fan motor according to claim 1, wherein said cooling plate has a retaining portion capable of retaining a signal line, said retaining portion including a tongue portion provided in a central portion thereof

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and a space portion surrounding said tongue portion to permit the signal line to pass therethrough across said tongue portion, and wherein said retaining portion retains the signal line by allowing the signal line to pass between said tongue portion and said cooling plate.

4. A heat sink built-in type fan motor, wherein a recessed portion capable of accommodating an attaching plate of a fan motor is provided in a cooling plate of a heat sink on a side thereof which is to be mounted on an electronic component, and said attaching plate is fixed from an attaching surface side of said cooling plate to the electronic component in a state that said attaching plate is accommodated in said recessed portion .

5. The heat sink built-in type fan motor according to claim 4, wherein said cooling plate has a retaining portion capable of retaining a signal line, said retaining portion including a tongue portion provided in a central portion thereof and a space portion surrounding said tongue portion to permit the signal line to pass therethrough across said tongue portion, and wherein said retaining portion retains the signal line by allowing the signal line to pass between said tongue portion and said cooling plate.

6. A fan motor comprising:
a motor portion having a fan blade;
a casing having a central portion to which said motor

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portion can be attached, said central portion defining an air blowing hole; and

an attaching plate for holding said motor portion, said attaching plate having an attaching leg, a distal end portion of which is located radially outwardly relative to said air blowing hole when said motor portion is attached to said casing,

wherein said casing has on its bottom side an attaching recessed portion capable of accommodating at least said distal end portion of said attaching leg portion.

10 7. A method of fixing the fan motor according to claim 6, comprising the steps of:

accommodating said motor portion in the air blowing hole from said bottom side of said casing; and

fixing said attaching leg portion to said casing in a state that said attaching leg portion is accommodated in said accommodating recessed portion.

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15 8. A structure for mounting a first plate member associated with a motor portion of a fan motor onto a second plate member having a first side and a second side opposite from said first side, said structure comprising:

an opening portion formed through said second plate member;

at least one recessed portion provided in said first side of said second plate member and located outwardly with respect

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to said opening portion; and

at least one leg portion provided to said first plate member, and received by said recessed portion so that said motor portion is at least partially located in said second side.

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The structure according to claim ⁶8, wherein said first plate member includes an attaching plate attached to said fan motor including said motor portion and a motor casing, and said second plate member includes a cooling plate.

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The structure according to claim 8, wherein said first plate member includes an attaching plate supporting said motor portion, and said second plate member includes a motor casing.

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The structure according to claim 8, wherein a depth of said recessed portion is as large as a thickness of said leg portion.

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The structure according to claim ⁶8, further comprising:

at least one notched portion provided to said second plate member to define an outwardly expanded perimeter of said opening portion, said notched portion being adjacent to said recessed portion.

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The structure according to claim ⁸12, further comprising:

a groove provided to said first side of said second plate

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member to connect said notched portion to said recessed portion.

14. The structure according to claim 8, wherein said opening portion is circular, ~~and~~ said recessed portion is located radially outwardly of said opening portion.

5 ¹⁰15. The structure according to claim ⁶8, wherein three of said recessed portions are provided to said second plate member.

" ¹¹16. The structure according to claim ⁶8, wherein three of said leg portions are provided to said first plate member.

¹²17. The structure according to claim 8, further comprising:

a hole portion provided to said second plate member;

a tongue portion provided to said second plate member and extending in a central portion of said hole portion, said tongue portion being spaced from each of opposing side edges of said hole portion.

¹³18. The structure according to claim ¹²17, wherein said hole portion includes a through-hole.

¹⁴19. The structure according to claim ¹²17, wherein said hole portion includes a blind-hole.